

**REMARKS**

The Applicants thank the Examiner for the thorough examination of the application. No new matter is believed to be added to the application by this Amendment.

**Entry Of Amendment**

Entry of this Amendment under 37 C.F.R. §1.116 is respectfully requested because it places the application in condition for allowance. Alternately, entry is requested because it places the application in better form for appeal.

**Status Of The Claims**

Claims 1, 2, 6-9, 12-15, 17-21, 25-27 and 30-33 are pending in the application. Claims 14, 15, 17, 18, 25-27 and 30-33 are allowed. Claims 1, 8 and 19 have been amended to clarify their language.

**Objections To The Claims**

The Examiner objects to claims 1, 2, 6-9, 12, and 19-21 as being unclear. The Examiner asserts that in the limitation “scanning adjacent signal wires,” it is unclear if the signal wires referred to are “even number signal wires” or “odd numbered signal wires.”

Claim 1 of the present invention focuses on a method to detect electrical shorts between adjacent signal wires. Claim 8 of the present invention focuses on a method to detect electrical shorts between crossed scan and signal wires. Therefore, although claims 1 and 8 pertain to the same invention, the species of electrical short detection are not equivalent.

In claim 1 of the present invention, the signal lines are grouped into two groups: one is the odd numbered group and the other is the even numbered group. To the odd numbered group is applied a first voltage ( $V_1$ ), and a second voltage ( $V_2$ ) is applied to the even numbered group. If an odd numbered signal wire is shorted with an adjacent even numbered signal wire, then there is an electric current due to the difference of the voltage ( $V_1 - V_2$ ). In this case, when a magnetic sensor is scanned over the shorted wire, it can thus detect the electric current.

It is possible to detect the electric current if the magnetic sensor scans over the one shorted signal wire. However, in order to most preferably detect the shorted point between adjacent signal wires, the magnetic sensor should scan over the adjacent signal wires at the same time. The electric current may then have a maximum value over the shorted point (see Figure 9 of the present invention).

If the magnetic sensor scans over the even numbered signal wire, it cannot properly detect the short between the even numbered signal wires because the even numbered wires have the same voltage, and there is thus no electric current even though the even numbered wires are shorted. In practice, a short between the even numbered wires rarely occurs, because there are two odd numbered wires near an odd numbered wire.

Therefore, claims 1-7 detects for shorts between neighboring signal wires, claims 8-13 detects for shorts between signal wires and scan wires (which are crossed), and claims 14-18 detects distortions of the electrode pattern. Also, among the device claims, claims 19-21 pertain to a device for detecting shorts between neighboring signal wires, claims 25-27 pertains to a device for detecting shorts between signal wires and scan wires (which are crossed), and claims 30-33 pertains to a device for detecting distortions of an electrode pattern.

The claims of the present invention are thus clear and unambiguous.

#### **Prior Art**

The prior art cited but not utilized by the Examiner indicates the status of the conventional art that the invention supercedes. Additional remarks are accordingly not necessary.

**Drawings**

The Examiner is respectfully requested to indicate whether the drawing figures are acceptable in the next official action.

**Foreign Priority**

The Examiner has acknowledged the claim for foreign priority most recently in the Office Action mailed June 1, 2005.

**Conclusion**

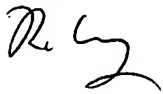
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert E. Goozner, Ph.D. (Reg. No. 42,593) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Amendment filed September 1, 2005  
Response to Office Action of June 1, 2005

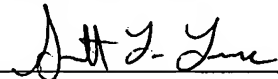
Application No.: 10/669,348  
Docket No.: 2658-0310P

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: September 1, 2005



Respectfully submitted,

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